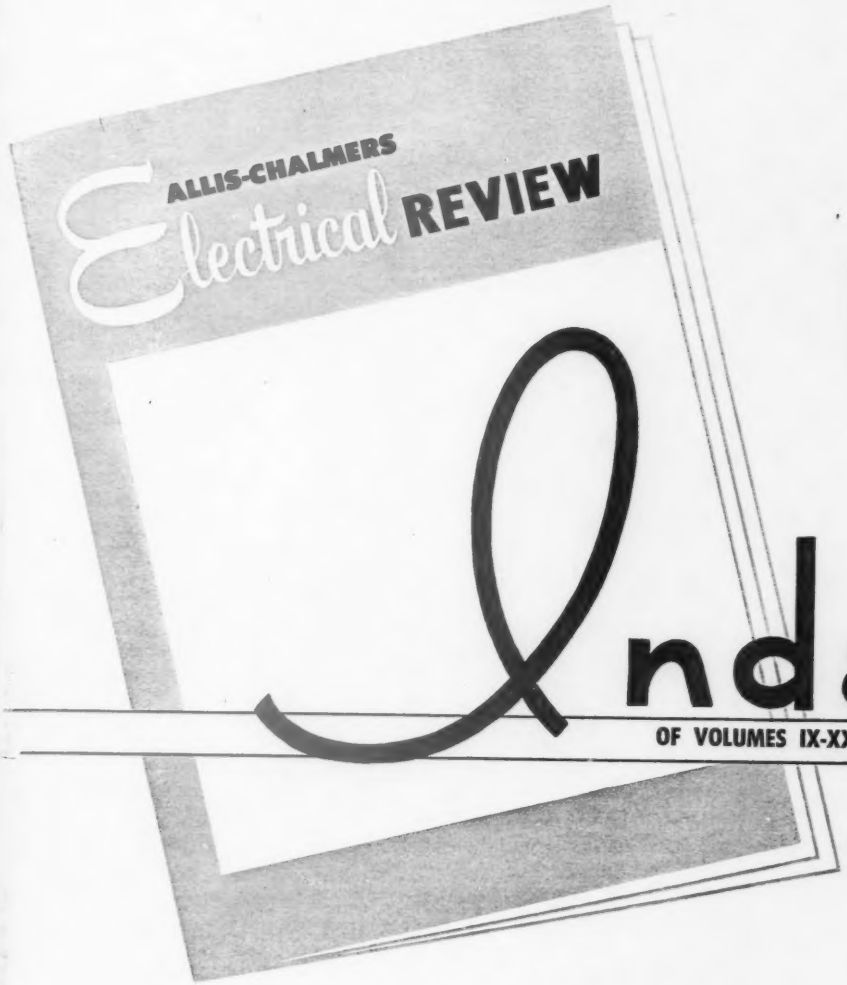
AL 5

1944-1958

NOTICE
THIS MATERIAL MAY BE PROTECTED BY COPYRIGHT LAW (TITLE 17 U.S. CODE)

IOWA STATE
JAN 5 - 1959
COLLEGE LIBRARY



Index

OF VOLUMES IX-XXIII (Supersedes Index Vol. VII-XXI)

PAGE

INDEX OF TITLES 2

SUBJECT INDEX 6

INDEX OF AUTHORS 12

COLLEGE LIBRARY

25R6075K

INDEX OF TITLES

A

	Issue	Page
A Million Breaks (Trans. Tap Changer) by A. H. Baguhn and G. W. Lengnick	3Q51	14
Adjusting Vertical Thrust Bearings by J. E. Petermann	4Q51	30
Advanced Type Boiling Reactor Plant Will Generate 60,000 Kw by C. B. Graham	1Q57	20
Aerial Photography Trick Simplifies Switchgear Installation Engineering by T. G. A. Sillers	S44	11
After Graduation, Opportunity by F. Jeffrey	4Q48	4
Air-Cooled Transformers Withstand Switchgear Impulse Tests by Albert Ewy	4Q52	31
Air Switch Serves Load Tap Changing Transformer by S. L. Foster	4Q58	4
Align Shafts, Not Couplings by W. F. King and J. E. Petermann	2Q51	26
Aluminum vs Copper for Step Regulators by C. W. Nielsen	4Q55	28
American Hydro Power in the 20th Century (Part I) by Edward Uehling *02R8433	3Q55	20
American Hydro Power in the 20th Century (Part II) by Edward Uehling *02R8433	4Q55	20
Analogies and Energies by D. Journeaux	1Q52	30
Analogies in AC Circuit Interruption by Dr. Erwin Salzer	2Q52	26
Analyzing AC Circuit Principles and Traveling Waves by A. H. Knable	4Q56	16
Applying Capacitive Reactance at Motor Terminals by W. E. Schwartzburg and R. C. Moore	4Q58	20
Applying Correlation Analysis to Engineering Problems by George Shombert	3Q58	18
Applying Magnetic Amplifiers by W. F. Eagan *14R8596	3Q56	20
Applying Motors to Balance Leading and Lagging Power Factors by E. N. Gigot *05R8531	2Q56	30
Applying Synchronous Condensers by H. H. Roth	4Q56	28
Are Patents Helping You Solve Your Problems? by H. L. Swenson	4Q57	25
Are Reduced Insulation Transformers Safe? by J. R. Mann	4Q58	31
Argonne and the Atom by C. R. Braun and K. H. Gruenwald	1Q57	4
Automatic Load Transfer by W. Schwartzburg	1Q55	26
Autotransformer Job Evaluation by L. W. Schoenig	4Q53	13
Auxiliary Drive Motor Keeps Pace with Modern Power by C. D. Lawton	1Q54	16

B

Balancing Heavy Shafts and Rotors by J. E. Petermann	1Q58	30
Basic Rules for Protecting Relaying by H. V. Nye	2Q51	20
Betatron Application Extended with New Electron Beam Tube by D. T. Scag and T. H. Rogers	3Q54	28
"Big Inch" Oil — Under Control by A. S. Munneke and Jack I. Gates	M44	5
Breaker Design—12,500 Amperes/Cubic Foot by O. J. Albani and J. S. Timmerman	3Q55	4
Building Blocks of Marine Power by H. Oman	2-3Q46	29
Building the 300,000,000-Volt Betatron by J. W. Becker and B. F. Ureda	2Q50	4
Burbank's Sunshine Power Plant by J. H. McCambridge	D45	14

C

Calculating Mutual Inductance in Unusual Arrangements by A. H. Knable	2Q58	7
Calculating Transformer Rise for Various Loads by E. M. Leonard	1Q48	16
Care of AC Rotating Equipment by F. Jeffrey — Part I	1Q49	13
Part II	2Q49	20
Part III	3Q49	18
Part IV	4Q49	30
Changing Taps Under Load by L. W. Schoenig	4Q48	8
Characteristics of the Induction Frequency Converter by R. C. Moore	3Q53	27
Check That Ground by R. Loewe	2Q48	26
Choose Your Control Power Source by D. Dalasta	3Q48	9
Choosing Protection for Transformer Oil by L. W. Schoenig	3Q56	30
Circulating Currents in Paralleled Load Ratio Control Transformers by W. C. Sealey	2Q53	25
Closed Delta Operation of Single-Phase Step Type Regulators by C. W. Nielsen	3Q52	25
Compressor Selection and Arrangement by C. F. Codrington *16R8308	2Q55	11
Construction of Alignment Nomograms and Their Application to Engineering Problems by D. B. Kececioglu and R. W. Opperthauser	2Q58	11
Control of Hydro Power — 1953 by John Baude and T. F. Finley	3Q53	20
Controlling Power Transformer Coolers by John A. Ebert	1Q56	25
Controlling Processing Lines for Transformer Steel by E. F. Boening and John Kostelac *14R8419	4Q55	9
Convair Blowdown Wind Tunnel . . . Develops Transonic and Supersonic Velocities by R. E. Claude and M. F. Gay *16R8580	1Q58	4
Coordinated Insulation — New Transformer Milestone by S. L. Foster	1Q49	4
Coordinating Controller and Breaker Ratings by T. H. Bloodworth and T. B. Montgomery	2Q50	18
Coordinating Network Relaying by A. H. Knable	4Q58	7
Coping with Reheat Turbine Overspeed by C. L. Ringle *03R8969	4Q57	4
Corona — Another Transformer "Has-Been" by L. C. Aicher	4Q50	13
Corona-Free Switchgear by Carl Mercier	1Q54	26
Correcting Errors in 3-Phase Power Measurement by D. R. Laib	1Q49	20
Cost Analysis in Power Transformer Selection by L. W. Schoenig	2Q54	26
Curing Intricate Cores with Dielectric Heat by Carl Loper	1Q53	4
Current Developments for Switchgear CT's by C. E. Mercier	2Q56	24
Curve Fitting by Thomas R. Hoffmann	3Q57	14

D

D-C Rotary Drilling Rig, The, by E. F. Boening and M. Gay	4Q47	4
Design Features of Today's Large Turbine Generators by L. T. Rosenberg *03R8503	2Q57	20
Design of Work Coils by B. E. Griffith, Jr. and R. Skiba — Part I	4Q47	21
Part II	2Q48	11
Designers' Models . . . The Modern Engineer's Tool by W. C. Frazier *03R8675	3Q58	18
Designing Rectifier Transformers with Phase Shift by J. A. Ebert	4Q58	14

* *Number indicates that reprints are available.*

	Issue	Page
Designing Switchgear "Bus Runs" by J. H. Michael and C. E. Mercier	4Q56	34
A Design Philosophy for General Purpose Motors by V. B. Honsinger	1Q54	35
Digital Computer Speeds Transformer Design by C. P. Kappeler and E. A. Goodman	1Q57	22
Distribution System Studies for Industrial Plants by D. Dalasta and Frank Nolan	2Q57	22
Distribution System Voltage Study by H. L. Deloney and W. L. Peterson	1Q56	12
Do You Know Your Own Invention? by D. Journeaux	3Q47	18
"Dog Tags" for Industry's Product Army by D. Journeaux	S44	15
Don't Lose Your Bearings! by G. L. Ringland	D44	30
Don't Overlook Silicone Insulation by J. L. Kuehlthau	1Q48	22
Double-Ended Substations . . . Economy or Luxury? by J. V. McGuire	2Q52	10
Drive Selection by M. F. Gay *16R8308	2Q55	14
Driving the World's Largest Water Tunnel by E. F. Boening and F. M. Scott	2Q50	10
Dynamic Performance of Synchronous Generator Voltage Regulators by H. W. Cory and W. F. Eagan	3Q52	10
Dynamometer Tests Jet Engines (24,000-hp) by M. Gay, W. F. King and D. Dalasta	1Q51	23

E

Eclipse Reveals Solar Secrets by J. T. Wilson	S45	4
Economics of Electric Power Pumping by C. A. Richardson	J44	20
Electrical Energy on Wheels by W. E. Schwartzburg	1Q47	4
Electrical Industry Looks Ahead! by C. W. Johnson	2Q48	4
Electronics — From Curiosity to World Power by William Guyton	S44	20
Engineers Discuss Dollar Dynamics by Stephen M. Hill *25R8898	3Q57	28
Evaluating High Temperature Liquid Pumps by A. F. Erwin	3Q58	7
Evaluating Neutral Regulators by L. W. Schoenig	3Q55	32

F

5 Cases of Reflected Waves from Discharging Arresters by A. H. Knable	4Q57	34
540-Degree Stator Coil Transposition by W. L. Ringland *03R8506	2Q57	8
Factory and Field High Voltage Short-Circuit Testing by E. E. Tugby and T. G. A. Sillers	1Q58	14
Five Stages to Stability by T. B. Montgomery and H. D. Timm	3Q51	8
Flameproofing Switchgear by J. H. Michael	4Q57	9
Fly-Ash Cleans Turbine Blading Faster by G. V. Williamson	1Q48	25
Frame Mounted Blowers Cool Adjustable Speed Motors by G. Byberg	1Q53	14
Frills Jump the Cost of Autotransformers by L. W. Schoenig	3Q48	13
From Candle Power to KW by R. Loewe and R. Robinson	1Q51	18
Fully Supercharged Generator Test Performance Surpasses Expectations by L. T. Rosenberg and P. I. Nippes	4Q54	4
Fundamental Problems of A-C Circuit Interruption by Dr. Erwin Salzer	D44	24
Fundamentals of A-C Circuit Interruption by Dr. E. Salzer —		
Part I	2Q48	20
Part II	3Q48	20
Part III	4Q48	18
Part IV	1Q49	28
Part V	2Q49	24
Part VI	3Q49	26
Fundamentals of Automatic Controls by W. Richter —		
Part I	1Q47	26
Part II	2Q47	26
Fused Starters Protect High Voltage Equipment by W. J. Herziger	2-3Q46	35

G

GDF Wind Tunnels for the World's Highest Air Speeds by C. F. Codrington and M. F. Gay *16R8308	2Q55	8
Gas Turbine — Ready for Rails! by J. T. Rettaliata —		
Part I	D44	11
Part II	M45	20
Generator-Motor Units for Reversible Pump-Turbines by H. H. Roth	4Q54	20
Get The Most From Veteran Transformers This Easy Way by W. C. Sealey	M44	20
Good Management with "Completed Work" by G. E. Feldman	3Q58	25
Graphical Differential Without Calculus by J. M. Ramrath	3Q51	28
Grouting by L. A. Watts —		
Part I	3Q47	21
Part II	4Q47	15
Part III	1Q48	20
Part IV	2Q48	30
Part V	4Q48	15
The Guided Self-Development of Engineers by Paul Nippes and W. Margopoulos *25E8559	3Q56	10

H

Hermetically Sealed Transformers Are Here to Stay by W. M. Terry, Jr.	1Q50	4
High Lines in Rough Terrain by F. D. Troxel	2Q52	4
High-Speed Reclosing Through the Years by H. B. Ashenden	3Q49	4
How Much Can a Breaker Take? by P. L. Taylor	1Q52	4
How Much Enclosure for Your Motor? by C. D. Lawton and F. C. Osterland	2Q58	32
How To Calculate Losses In Wound Rotor Motors by R. C. Moore	2-3Q46	15
How to Design Basic Controls for Automatic Hydro Stations by J. Baude	4Q49	24
How to Find the Right Spot for Regulators by R. D. Okerberg	2Q54	15
How to Get Emergency Transformer Capacity by S. L. Foster *01R8529	2Q56	16
How to Increase Step Regulator Ratings by W. C. Sealey and R. D. Okerberg *21R8317	2Q55	25
How to Prepare Better Slides by R. Campana	2Q51	4
How to Select Storage Batteries for Switchgear by Robert Loewe	D44	15
How to Tell If An Enclosed Motor Will Pay for Itself by G. Byberg	J44	28
Hydrogen Cooling—1951 by A. Lehrkind	4Q51	12
Hydrogen Cooling Simplified by A. Lehrkind and W. F. King	3Q47	6
Hydrogen Jet Cooling by L. T. Rosenberg	2Q53	29
Hydrogen Keeps 'Em Cool by V. J. Egan	S45	32
Hydro-Generators—Rugged Individualists by H. H. Roth	4Q51	22
Hydraulically Stored Energy—New Era in Circuit Breaker Actuation by E. R. Perry and N. W. Morelli	4Q52	4

I

Impulse Testing Without Delay by L. C. Aicher and J. H. Moran	4Q50	10

** Number indicates that reprints are available.*

523990

	Issue	Page
Induced Heat Rolls Up Its Sleeves by R. M. Serota	D45	10
Induction Heat Works Metal Magic by S. H. Mortensen	M45	4
Induction Motor Torques Defined by R. C. Moore *05R8501	2Q57	4
Industrial Control or Switchgear? by H. A. Wright	2Q56	4
Installing a Unit Substation by J. McGuire and W. E. Schwartzburg	2Q47	24
Installing World's Largest Pump-Turbine by R. M. Lewis and R. S. Dominick	1Q56	10
Integral Design Reduces Weight and Size of Large Transformers by K. P. Wiederkehr	1Q56	28
"Integrated" Rotor Coil—Bonded to Extend Salient-Pole Motor Life by J. L. Kuehlthau and J. W. Sargent *05R8592	3Q56	4
Interlocks for Switchgear, Rx, by A. Ewy	4Q48	12
Inventions Need Birth Certificates by G. M. Albrecht	4Q47	18
Ion Exchange — Electrochemistry's New Frontier by T. L. Pankey	1Q54	22
Is It Sound, Or Noise? by L. C. Aicher — Part I	4Q46	9
Part II	1Q47	10
Is It Weight, Or Mass? by W. Richter	2Q48	31
Is More Inertia the Answer? by G. Byberg and V. J. Egan	1Q50	22
Is "Patent Knowledge" One of Your Working Assets? by H. L. Swenson	3Q58	23
Is Your Bearing Trouble a Puzzler? by C. D. Lawton	4Q51	28
It's Simple to Overload Transformers — If You Know How by Harding B. Hansen	M44	24

J-K-L

Liquid Rheostat Returns, The, by A. Halster	1Q47	14
Loading Evaluation of Transformers by L. S. Woodruff	2Q50	27
Lock Out Accidents with Safety Interlocks by R. F. Schoof	4Q58	10

M

Mastering The Short Circuit by Karl Lerstrup	J45	20
Metal-Clad Switchgear for Power Plant Auxiliaries by H. H. Ackmann	4Q51	34
Models Build Better Power Plants by F. L. Dornbrook	2-3Q46	22
Methods of Closing and Tripping Circuit Breakers by R. Steiner and R. Loewe	4Q46	24
Modern Lightning Diversion by L. C. Aicher	2Q51	10
Modernize Your Breakers? by F. T. Gifford and S. R. Stubbs	J45	10
Motion Study Can "Up" Office Efficiency 70 Percent by Harold W. Martin	M44	13
Motor Starting—A Distribution System Problem by H. W. Cory and T. F. Bellinger	1Q55	4
Motor Starting—Part II by H. W. Cory and T. F. Bellinger	2Q55	30
Motors for the Delaware Flying A Refinery by G. W. Bottrell and D. E. Steele	4Q56	13

N

New Arc-Furnace Processes Spotlight Transformer Design Details by E. G. Ashbaugh	4Q54	9
New Blood for Old Switchgear by C. J. Teasley	1Q50	28
New Capacitor Trip Operates on Low Voltage by Carl Feldman	3Q58	29
New Experimental Laboratory Tests Steam Turbine Blading by F. J. Enright	1Q58	10
New Grounding Device Simplifies Testing of Installed Switchgear by H. H. Ackmann and J. F. Chipman	1Q53	28
New High Energy Retention Pit by J. A. Zimmerman *03R8504	2Q57	14
New Light on Fuel Cells by J. P. Manion *25R9082	3Q58	14
A New Principle of Arc Interruption by A. E. Herman	2Q50	22
New Trends in Turbo-Generators by L. T. Rosenberg	4Q50	4
New Vibration Warning Device for Hydro Turbine Generators by H. H. Roth and B. R. Olson	4Q53	29
New View of Conversion Factors, A by W. C. Sealey	J44	26
Nomographs By-Pass Test Costs by John Baude	2Q52	18
Now Instrument Transformer Standards Make Sense by F. E. Davis	J44	5

O

Oil Circuit Breakers, A Half-Century of, by K. B. Seely	4Q49	4
Oil or Air Contactors for Medium Voltage Control? by H. A. Wright	4Q58	28
One Machine—Two Functions . . . New Reversible Pump-Turbine by Frank E. Jaski	4Q52	8
1,300,000-Kva Load Tap Changer by W. C. Sealey and S. L. Foster	1Q56	21
Operating Induction Motors on Under and Overvoltage by R. C. Moore	1Q58	20
Operating Regulators with Inside-the-Delta Connection by J. E. Jacobsen and A. S. Lindway	2Q58	20
Oral Communications — A Vital Engineering Tool by Ralph Grutsch and Herbert Pritzlaff *25R8899	1Q57	4
Oriented Steel and Today's Turbine Generators by G. W. Staats	1Q56	18

P

Packaged Bus Protects Electrical Conductors by J. S. Timmerman	1Q51	13
Pancake Motors Solve Space Problems by V. B. Honsinger *51R9011	1Q58	24
Panels, Sound Absorption of, by B. D. Nawn and D. F. Thompson	3Q50	24
Paralleling Load Ratio Control Transformers by W. C. Sealey	3Q52	30
Paralleling Synchronous Frequency Changers by H. H. Roth	2Q52	24
Patents and Rights to Inventions by H. S. Silver and W. C. Sealey	D45	27
Patents Make Sense. IF— by J. S. Lieb	4Q50	20
Performance Characteristics of 150 C Rise Dry-Type Transformers by W. M. Terry *61R8246	1Q55	10
Periodic Circuit Breaker Tests Cut Maintenance Costs by E. R. Perry *71R8584	3Q57	20
Phasing Out Switchgear Connections by R. E. Burlingame	1Q50	18
Pick The Right Rod — It's Easy! by E. P. Gorman	D45	5
Planning the Electrical Distribution System for a Modern Cement Plant by C. L. Kleeman	3Q53	4
Plotting Electrostatic Stress by G. E. Jansson and William Harper	3Q53	30
Portable Sets Aid Balancing by E. W. Mills and W. F. King	1Q48	11
Potheads Are Important, Too! by H. H. Ackmann	4Q48	24
Power Distribution and Control by John Baude and Heinz Buss *16R8308	2Q55	20

* *Number indicates that reprints are available.*

	Issue	Page
Power of the Future by R. C. Allen	3Q55	10
Power Distribution at Tidewater's Flying A Refinery by C. W. Boice and S. R. Durand	4Q56	7
Power for a Modern Blooming, Bar and Billet Mill by C. H. Legler, J. Baude, W. E. Gutzwiller, and R. M. Peeples	1Q51	4
Power for Modern Chemical Plants by H. C. Bauman	3Q48	13
Powering a Giant Arc Furnace by G. H. Gilbertson and J. A. Ebert *01R8659	1Q57	10
Predetermine Regulator Accuracy by W. F. Eagan	3Q52	15
Predetermining Voltage Distribution in Transformers by L. C. Aicher	3Q50	9
Preferred Numbers, Please! by R. O. Tjensvold	1Q46	16
"Prinz" At The Crossroads, The, by H. Oman	1Q46	23
Progress Report . . . Supercharged Cooling Today by L. T. Rosenberg	1Q54	4
Protect Motors from Surges by B. M. Kleinman	4Q52	12
Protect Your Motors From Invasion by G. Byberg and C. D. Lawton—		
Part I	S44	5
Part II	M45	30
Part III	1Q47	30
Part IV	3Q47	25
Part V	4Q47	25
Protect Your Trademark by E. Koppel	3Q51	30
Protecting an Outdoor Substation by S. E. McDowell	2Q58	26
PT's Are Getting Smaller by D. R. Laib	1Q52	20
Pull-Out Reserve—Controlled and Indicated by T. B. Montgomery and D. V. Hotson	1Q52	11
Pump-Turbines . . . 1954 Progress Report by Frank E. Jaski	4Q54	16
Push-Button Testing of Power Transformers by S. L. Foster and W. C. Sealey	1Q50	10

Q-R

Quick Conversion Plan Makes System Change Click by B. H. McCoin	M45	27
Reactance Affects Transformer Design by L. W. Schoenig	2Q49	9
Reactive Power Problem — Job for Regulator by W. L. Peterson	D44	20
Regulating Hydro-Station Generators by R. A. Gerg	2Q54	20
Regulators vs. Switched Capacitors by R. D. Okerberg	1Q54	10
Regulex — Instability In Harness by T. B. Montgomery	2-3Q46	5
Reheat — Past, Present and Future by C. A. Robertson	1Q49	9
Reheat and Today's High Temperature Steam Turbine by C. D. Wilson *03R8467	1Q56	4
Reheating Comes Back by C. W. Bloedorn	2Q48	6
Relieve Your Engineer Shortage . . . Discover More Time for Engineering by G. E. Feldman	4Q57	15
Repainting Transformers in the Field by J. R. Mann and O. V. Stewart	4Q50	26
Residual Voltage in Induction Motors Influences Load Transfer Time by R. C. Moore	3Q55	28
Ring Bus in Metal-Clad Switchgear by D. Dalasta	3Q54	18
Rotating Regulators Control Systems Reactive Current by T. B. Montgomery and H. D. Timm	4Q51	4
Rx — Interlocks for Switchgear by A. Ewy	4Q48	12

S

Safeguarding Large AC Motors by E. N. Gigot and F. C. Osterland	1Q52	24
Scale Models Introduce Visual Planning of Unit Substations by John McGuire	J44	12
Seal and Bearing Testing of Modern Generators by Fred A. Bermke	1Q54	8
Selecting Excitation Systems for Hydro-Generators by H. H. Roth	4Q55	4
Selecting Excitations Systems for Turbo-Generators by H. H. Roth *01R8530	2Q56	10
Selecting Generators for Hydro-Electric Plants by H. H. Roth	1Q53	20
Selecting Steam Surface Condensers by W. E. Ellingen	1Q55	18
Selecting a Low Voltage Breaker? by B. Holman	2Q47	12
Selecting Control for Heavy Machinery by W. R. Patterson and R. A. Gerg	4Q52	26
Selecting Nuclear Pumps and Motors by A. F. Erwin	3Q57	4
Shell's New Superimposed Power Plant by P. L. Andry, Jr.	2Q47	4
Should Distribution Transformer Ratings Be Revised? by J. B. Hodtum	3Q47	22
Short Circuit Calculations for Circuit Breakers by R. E. Burlingame	3Q48	27
Short Cuts in Surge Analysis by A. H. Knable	1Q57	30
A Simple Method of Paralleling Load Tap-changing Transformers by W. C. Sealey	3Q54	12
Silco-Flex Insulation—Opening the Way to Longer Motor Life by J. L. Kuehlthau and P. A. Kryder *05R8341	2Q55	4
Simplifying Coordination of Short Circuit Protection by R. Loewe and Peter F. Lovato	2Q53	18
Single Circuit Sub by W. E. Schwartzburg	4Q47	10
Sinusoidal D-C Positioner, The, by C. R. Mikolic	1Q46	20
600-KV Transformer Establishes New Insulation Levels	3Q53	17
Solve Axial Thrust Problems with Limited End Float Couplings by E. B. Mills and J. E. Petermann *05R8900	3Q57	23
Solving the Shock Problem by Chas. Rockwood	1Q46	4
Something New Every Day by J. G. Linn	2Q47	18
Sound Absorption of Panels by B. D. Nawn and D. F. Thompson	3Q50	24
Speaking of Power Factors by R. A. Gerg	4Q55	18
Squirrel-Cage Motors and High Inertia Loads by G. Byberg	1Q55	23
Standardization Speed-Up Simplifies Substation Engineering by J. N. Banky	D45	20
Standards — Help or Hindrance by H. V. Nye	4Q49	11
Starting with Slip Rings Shorted by R. C. Moore	1Q57	26
Static Capacitors Boost Systems Pay Load by H. E. Stites and R. Loewe	D45	31
Statistical Quality Control Plus Tabulating Machines Helps Purchaser and Vendor by William F. Kohl	3Q57	10
Steam Turbine History Highlights by R. C. Allen—		
Part I	2Q53	4
Part II	3Q53	11
Part III	4Q53	18
Stem Voltage Floods on Circuit Breakers by P. L. Taylor	S45	20
Supercharged Cooling of Generators by S. Beckwith	3Q51	4
Survey of Modern Motor Starters, A, by J. Baude	1Q47	20
Switchgear Control for Synchronous Motors by W. E. Schwartzburg and C. Straub	3Q51	20
Switchgear Drawings Clarified by Ray Stowe	3Q52	20
Synchronous Condenser at Arc-Furnace Load Steadies Power Demands by S. E. McDowell	4Q54	12
The *Synduction* Motor by R. J. Dineen *51R8597	4Q56	22
System Trouble! Where? by R. P. Holland and W. E. Schwartzburg—		
Part I	3Q49	22
Part II	4Q49	20

* *Number indicates that reprints are available.*

T

	Issue	Page
"Take 'er Down" Is the Big Test for a Sub's Machinery by Ensign John A. Logan	S44	30
Taking Stock of Stored Energy in Magnetic Circuits by Walther Richter	J44	15
Take the Switchyard Along by F. J. Arnaud and R. Loewe	3Q50	4
Tensors and Transformer Connections by R. Bruce Shipley	2Q54	30
Testing Flame-Retardant Quality of Insulation by R. H. Lambert	4Q57	12
Testing of Power Transformers, Push-Button, by S. L. Foster and W. C. Sealey	1Q50	10
Testing Transformer Oils by W. C. Sealey	1Q49	24
Testing Your Motors "By Proxy" by H. T. Murdock	J45	4
Their Ceiling Is the Sky — Outdoor Motors by C. D. Lawton	1Q53	10
Thinking of a Patent? by W. S. Gates	4Q46	18
Thirty Years of Automatic Reclosing by C. L. Headley	2Q49	16
Tidewater's Flying A Refinery *25R8676	4Q56	4
Time Saver for Distribution Engineers by J. B. Hodtum	2Q51	15
Three-Phase Power Transformers Gain Popularity by W. G. Ashbaugh	3Q57	27
Today's Excitron Rectifiers by A. D. Millikin *12R8505	2Q57	10
Today's Power Plant Motors by C. D. Lawton	3Q52	4
Today's Textile Motors by V. B. Honsinger and R. J. Jennings	2Q53	10
Today's Trends and Tomorrow's Turbines by C. D. Wilson and E. P. Hansen	2Q54	4
Transformers Are Winning Fight To Lick Lightning by L. C. Aicher	S45	24
Transistors for Mercury Arc Rectifier Control by J. B. Rice *12R8502	2Q57	16
Transmission Breakers Pace Power Growth by A. E. Kilgour	2Q57	32
Trends in Power Transformer Application by L. W. Schoenig	3Q50	20
Trends in Turbo-Generators, New, by L. T. Rosenberg	4Q50	4
25,000 Kw of DC Power Move Materials at Fairless Works by D. B. Scott and E. F. Kochman	3Q54	23
Twin Drive Designed for New Transonic Wind Tunnel by M. F. Gay and Elroy Boening	2Q54	10
2-Way Power Flow in Feeder Voltage Regulators by R. D. Okerberg	4Q53	10

U-V

	Issue	Page
Ultrasonic Testing of Spindle and Rotor Forgings by Robert G. Matters	4Q53	4
Ultrasonics — The Key to Locating Defects in Metal Structure by R. N. Hafemeister *03R8970	4Q57	20
Unique Insulation System for New 5-Kv Switchgear by N. Kreekon and W. H. Lane	2Q58	4
V-Belt Drive Fundamentals for Engineers by F. H. Rumble	2Q51	30
Variable Frequency Dynamometer by E. H. Fredrick and M. F. Gay	4Q52	20
Variable Speed Drives Using AC Equipment by Harlan S. Neuville	3Q57	30
Variable Speed Pumps — Their Motors and Control by R. L. Brown	4Q57	28
Variations in the Dielectric Strength of Air by L. C. Aicher	3Q49	12
Versatility Cast into New CT's by W. C. Farneth and George Gallousis	3Q55	15
Visualizing Transformer Impedances by W. C. Sealey	2Q52	13
Voltor Diagram, The, by E. S. Warner	2Q49	4

W-Z

	Issue	Page
Water Over the Dam by Edward Uehling— Part I	3Q54	4
Part II	4Q54	27
What A Power System Needs To Be "Effectively Grounded" by V. J. Cissna and W. C. Sealey	J45	28
What About 5/8% Feeder Voltage Regulation by I. W. Best and H. C. Brem	3Q58	4
What Is a "Bigger" Transformer? by W. C. Sealey	4Q46	21
What Is Exciter Response? by H. H. Roth	3Q51	17
What's Your Patent I.Q.? by H. L. Swenson	IQ58	28
"When" and "Why" Tips on Bushing Current Transformers by H. B. Ashenden	S44	24
When Specifying Double-Ended Unit Substations Consider the Duo-Duplex by Warren J. Birgel and John A. Keymar	4Q53	25
Where Does Transformer Noise Come From? by T. F. Madden	4Q51	16

SUBJECT INDEX

(Articles are listed in chronological order under each heading)

Balancing

Balancing Is Easy, If You Know How by W. F. King	2-3Q46	25
Thermal Balancing of Large Rotors by W. F. King	2Q47	8
Portable Sets Aid Balancing by E. W. Mills and W. F. King	1Q48	11
Balancing Heavy Shafts and Rotors by J. E. Petermann	1Q58	30

Betatron

Betatron — Industry's New Seeing Eye by J. P. Girard	2-3Q46	10
Building the 300,000,000-Volt Betatron by J. W. Becker and B. F. Ureda	2Q50	4
The Betatron Today by R. C. Odell — Part I	3Q50	13
Part II	4Q50	29
Betatron Application Extended with New Electron Beam Tube by D. T. Scag and T. H. Rogers	3Q54	28

Central Station Problems

Models Build Better Power Plants by F. L. Dornbrook	2-3Q46	22

Circuit Breakers

"When" and "Why" Tips on Bushing Current Transformers by H. B. Ashenden	S44	24
Fundamental Problems of A-C Circuit Interruption by Dr. Erwin Salzer	D44	24
Modernize Your Breakers? by F. T. Gifford and S. R. Stubbs	J45	10
Stem Voltage Floods on Circuit Breakers by P. L. Taylor	S45	20
Methods of Closing and Tripping Circuit Breakers by R. Steiner and R. Loewe	4Q46	24

** Number indicates that reprints are available.*

	Issue	Page
Selecting a Low Voltage Breaker? by B. Holman	2Q47	12
Short Circuit Calculations for Circuit Breakers by R. E. Burlingame	3Q48	27
Fundamentals of AC Circuit Interruption by Dr. E. Salzer —		
Part I	2Q48	20
Part II	3Q48	20
Part III	4Q48	18
Part IV	1Q49	28
Part V	2Q49	24
Part VI	3Q49	26
Thirty Years of Automatic Reclosing by C. L. Headley	2Q49	16
High-Speed Reclosing Through the Years by H. B. Ashenden	3Q49	4
System Trouble! Where? by R. P. Holland and W. E. Schwartzburg —		
Part I	3Q49	22
Part II	4Q49	20
A Half-Century of Oil Circuit Breakers by K. B. Seely	4Q49	4
New Blood for Old Switchgear by C. J. Teasley	1Q50	28
Coordinating Controller and Breaker Ratings by T. H. Bloodworth and T. B. Montgomery	2Q50	18
How Much Can a Breaker Take? by P. L. Taylor	1Q52	4
Hydraulically Stored Energy—New Era in Circuit Breaker Actuation by E. R. Perry and N. W. Morelli	4Q52	4
Breaker Design—12,500 Amperes/Cubic Foot by O. J. Albani and J. S. Timmerman	3Q55	4
Transmission Breakers Pace Power Growth by A. E. Kilgour	2Q57	32
Periodic Circuit Breaker Tests Cut Maintenance Costs by E. R. Perry *71R8584	3Q57	20
Factory and Field High Voltage Short-Circuit Testing by E. E. Tugby and T. G. A. Sillers	1Q58	14
New Capacitor Trip Operates on Low Voltage by Carl Feldman	3Q58	29

Control

"Big Inch" Oil — Under Control by A. S. Munneke and Jack I. Gates	M44	5
Control That Speed! by E. H. Fredrick and G. Byberg —		
Part I	D44	5
Part II	J45	23
Part III	S45	13
Part IV	1Q46	10
Part V	4Q46	5
Sinusoidal D-C Positioner, The, by C. R. Mikolic	1Q46	20
Regulex — Instability In Harness by T. B. Montgomery	2-3Q46	5
Fused Starters Protect High Voltage Equipment by W. J. Herziger	2-3Q46	35
Liquid Rheostat Returns, The, by A. Halter	1Q47	14
A Survey of Modern Motor Starters by J. Baude	1Q47	20
Fundamentals of Automatic Controls by W. Richter —		
Part I	1Q47	26
Part II	2Q47	26
The D-C Rotary Drilling Rig by E. F. Boening and M. Gay	4Q47	4
Choose Your Control Power Source by D. Dalasta	3Q48	9
How to Design Basic Control Schemes for Automatic Hydro Stations by J. Baude	4Q49	24
Driving the World's Largest Water Tunnel by E. F. Boening and F. M. Scott	2Q50	10
Coordinating Controller and Breaker Ratings by T. H. Bloodworth and T. B. Montgomery	2Q50	18
A New Principle in Arc Interruption by A. E. Herman	2Q50	22
Power for a Modern Blooming, Bar and Billet Mill by C. H. Legler, J. Baude, W. E. Gutzwiller, and R. M. Peeples	1Q51	4
Selecting Control for Heavy Machinery by W. R. Patterson and R. A. Gerg	4Q52	26
Regulating Hydro-Station Generators by R. A. Gerg	2Q54	20
Motor Starting—A Distribution System Problem by H. W. Cory and T. F. Bellinger—		
Part I *14R8377	1Q55	4
Part II *14R8377	2Q55	30
Controlling Processing Lines for Transformer Steel by E. F. Boening and John Kostelac *14R8419	4Q55	9
Industrial Control or Switchgear? by H. A. Wright	2Q56	4
Applying Magnetic Amplifiers by W. F. Eagan *14R8596	3Q56	20
Variable Speed Pumps — Their Motors and Control by R. L. Brown	4Q57	28
Oil or Air Contactors for Medium Voltage Control? by H. A. Wright	4Q58	28

Dynamometers

Dynamometer Tests Jet Engines (24,000-hp) by M. Gay, W. F. King and D. Dalasta	1Q51	23
Variable Frequency Dynamometer by E. H. Fredrick and M. F. Gay	4Q52	20

Electronics

Electronics — From Curiosity to World Power by William Guyton	S44	20
Mercury Arc Converter Masters Metals in Deep Heating by H. F. Storm	M45	7
Induction Heat Works Metal Magic by S. H. Mortensen	M45	4
Vacuum Tube Converter — Key to Radio-Frequency Heating by J. M. Cage	M45	14
Induced Heat Rolls Up Its Sleeves by R. M. Serota	D45	10
Design of Work Coils by B. E. Griffith, Jr. and R. Skiba —		
Part I	4Q47	21
Part II	2Q48	11
Electronics in the Foundry? by B. E. Griffith, Jr.	4Q49	13
Curing Intricate Cores with Dielectric Heat by Carl Loper	1Q53	4

General

Economics of Electric Power Pumping by C. A. Richardson	J44	20
Motion Study Can "Up" Office Efficiency 70 Percent by Harold W. Martin	M44	13
"Big Inch" Oil — Under Control by A. S. Munneke and Jack I. Gates	M44	5
Something New Every Day by J. G. Linn	2Q47	18
100 Years — 1847-1947	3Q47	4
Grouting by L. A. Watts —		
Part I	3Q47	21
Part II	4Q47	15
Part III	1Q48	20
Part IV	2Q48	30
Part V	4Q48	15
The Electrical Industry Looks Ahead by C. W. Johnson	2Q48	4
After Graduation, Opportunity by F. Jeffrey	4Q48	4
Potheads Are Important, Too! by H. H. Ackmann	4Q48	24
A Half-Century of Oil Circuit Breakers by K. B. Seely	4Q49	4
Standards — Help or Hindrance by H. V. Nye	4Q49	11
Sound Absorption of Panels by B. D. Nawn and D. F. Thompson	3Q50	24
Power for a Modern Blooming, Bar and Billet Mill by C. H. Legler, J. Baude, W. E. Gutzwiller, and R. M. Peeples	1Q51	4

* *Number indicates that reprints are available.*

	Issue	Page
How to Prepare Better Slides by R. Campana	2Q51	4
Modern Lightning Diversion by L. C. Aicher	2Q51	10
V-Belt Drive Fundamentals for Engineers by F. H. Rumble	2Q51	30
What Is Exciter Response? by H. H. Roth	3Q51	17
Analogies and Energies by D. Journeaux	1Q52	30
Analogies in AC Circuit Interruption by Dr. Erwin Salzer	2Q52	26
Protect Motors From Surges by B. M. Kleinman	4Q52	12
Characteristics of the Induction Frequency Converter by R. C. Moore	3Q53	27
Plotting Electrostatic Stress by G. E. Jansson and William Harper	3Q53	30
New Vibration Warning Device for Hydro Turbine Generators by H. H. Roth and B. R. Olson	4Q53	29
Seal and Bearing Testing of Modern Generators by Fred A. Bermke	1Q54	8
Ion Exchange — Electrochemistry's New Frontier by T. L. Pankey	1Q54	22
New Arc-Furnace Processes Spotlight Transformer Design Details by E. G. Ashbaugh	4Q54	9
Synchronous Condenser at Arc-Furnace Load Steadies Power Demands by S. E. McDowell	4Q54	12
Selecting Steam Surface Condensers by W. E. Ellingen	1Q55	18
Compressor Selection and Arrangement by C. F. Codrington *16R8308	2Q55	11
GDF Wind Tunnels for the World's Highest Air Speeds by C. F. Codrington and M. F. Gay *16R8308	2Q55	8
Power of the Future by R. C. Allen	3Q55	10
The Guided Self-Development of Engineers by Paul Nippes and W. Margopoulos *25E8559	3Q56	10
Applying Synchronous Condensers by H. H. Roth	4Q56	28
Power Distribution at Tidewater's Flying A Refinery by C. W. Boice and S. R. Durand	4Q56	7
Tidewater's Flying A Refinery	4Q56	4
Oral Communications — A Vital Engineering Tool by Ralph Grutsch and Herbert Pritzlaff *25R8899	1Q57	14
Statistical Quality Control Plus Tabulating Machines Helps Purchaser and Vendor by William F. Kohl	3Q57	10
Engineers Discuss Dollar Dynamics by Stephen M. Hill *25R8898	3Q57	28
Relieve Your Engineer Shortage . . . Discover More Time for Engineering by G. E. Feldman	4Q57	15
Ultrasonics — The Key to Locating Defects in Metal Structure by R. N. Hafemeister *03R8970	4Q57	20
Convair Blowdown Wind Tunnel . . . Develops Transonic and Supersonic Velocities by R. E. Claude and M. F. Gay *16R8580	1Q58	4
Good Management with "Completed Work" by G. E. Feldman	3Q58	25
Designers' Models . . . The Modern Engineer's Tool by W. C. Frazier	3Q58	12
New Light on Fuel Cells by J. P. Manion *25R9082	3Q58	14
Lock Out Accidents with Safety Interlocks by R. F. Schoof	4Q58	10

Generators

100 Years — 1847-1947	3Q47	4
Hydrogen Cooling Simplified by A. Lehrkind and W. F. King	3Q47	6
Transient Operation of DC Generators by D. Journeaux	3Q50	27
Supercharged Cooling of Generators by S. Beckwith	3Q51	4
What Is Exciter Response? by H. H. Roth	3Q51	17
Hydrogen Cooling—1951 by A. Lehrkind	4Q51	12
Pull-Out Reserve—Controlled and Indicated by T. B. Montgomery and D. V. Hotson	1Q52	11
Paralleling Synchronous Frequency Changers by H. H. Roth	2Q52	24
Hydrogen Jet Cooling by L. T. Rosenberg	2Q53	29
Progress Report . . . Supercharged Cooling Today by L. T. Rosenberg	1Q54	4
Fully Supercharged Generator Test Performance Surpasses Expectations by L. T. Rosenberg and P. I. Nippes	4Q54	4
Oriented Steel and Today's Turbine Generators by G. W. Staats	1Q56	18
540-Degree Stator Coil Transposition by W. L. Ringland *03R8506	2Q57	8
New High Energy Retention Pit by J. A. Zimmerman *03R8504	2Q57	14
Design Features of Today's Large Turbine Generators by L. T. Rosenberg *03R8503	2Q57	20

Hydro-Electric Machinery

100 Years — 1847-1947	3Q47	4
Is More Inertia the Answer? by G. Byberg and V. J. Egan	1Q50	22
From Candle Power to KW by R. Loewe and R. Robinson	1Q51	18
Adjusting Vertical Thrust Bearings by J. E. Petermann	4Q51	30
Hydro-Generators—Rugged Individualists by H. H. Roth	4Q51	22
One Machine—Two Functions . . . New Reversible Pump-Turbine by Frank E. Jaski	4Q52	8
Selecting Generators for Hydro-Electric Plants by H. H. Roth	1Q53	20
Water Over The Dam by Edward Uehling —		
Part I	3Q54	4
Part II	4Q54	27
Pump-Turbines . . . 1954 Progress Report by Frank E. Jaski	4Q54	16
Generator-Motor Units for Reversible Pump-Turbines by H. H. Roth	4Q54	20
American Hydro Power in the 20th Century by Edward Uehling—		
Part I *02R8433	3Q55	20
Part II *02R8433	4Q55	20
Installing World's Largest Pump-Turbine by R. M. Lewis and R. S. Dominick	1Q56	10
Selecting Excitations Systems for Turbo-Generators by H. H. Roth	2Q56	10

Marine

"Take 'er Down" Is the Big Test for a Sub's Machinery by Ensign John A. Logan	S44	30
"Prinz" At The Crossroads, The, by H. Oman	1Q46	23
Building Blocks of Marine Power by H. Oman	2-3Q46	29

Materials

Ultrasonic Testing of Spindle and Rotor Forgings by Robert G. Matters	4Q53	4

Mathematics and Theory

New View of Conversion Factors, A by W. C. Sealey	J44	26
Taking Stock of Stored Energy in Magnetic Circuits by Walther Richter	J44	15
Preferred Numbers, Please! by R. O. Tjensvold	1Q46	16
Design of Work Coils by B. E. Griffith, Jr. and R. Skiba —		
Part I	4Q47	21
Part II	2Q48	11

* *Number indicates that reprints are available.*

	Issue	Page
Calculating Transformer Rise for Various Loads by E. M. Leonard	1Q48	16
Is It Weight, Or Mass? by W. Richter	2Q48	31
Short Circuit Calculations for Circuit Breakers by R. E. Burlingame	3Q48	27
Fundamentals of A-C Circuit Interruption by Dr. E. Salzer —		
Part I	2Q48	20
Part II	3Q48	20
Part III	4Q48	18
Part IV	1Q49	28
Part V	2Q49	24
Part VI	3Q49	26
The Voltor Diagram by E. S. Warner	2Q49	4
Variations in the Dielectric Strength of Air by L. C. Aicher	3Q49	12
Predetermining Voltage Distribution in Transformers by L. C. Aicher	3Q50	9
Graphical Differential Without Calculus by J. M. Ramrath	3Q51	28
Nomographs By-Pass Test Costs by John Baude	2Q52	18
A Design Philosophy for General Purpose Motors by V. B. Honsinger	1Q54	35
Tensors and Transformer Connections by R. Bruce Shipley	2Q54	30
Analyzing AC Circuit Principles and Traveling Waves by A. H. Knable	4Q56	16
Speaking of Power Factors by R. A. Gerg	4Q55	18
Short Cuts in Surge Analysis by A. H. Knable	1Q57	30
Curve Fitting by Thomas R. Hoffmann	3Q57	14
5 Cases of Reflected Waves from Discharging Arresters by A. H. Knable	4Q57	34
Calculating Mutual Inductance in Unusual Arrangements by A. H. Knable	2Q58	7
Construction of Alignment Nomograms and Their Application to Engineering Problems by D. B. Kececioglu and R. W. Opperthauser	2Q58	11
Applying Correlation Analysis to Engineering Problems by George Shombert	3Q58	18
Coordinating Network Relaying by A. H. Knable	4Q58	7

Motors (General)

	Issue	Page
How to Tell If An Enclosed Motor Will Pay for Itself by G. Byberg	J44	28
Protect Your Motors From Invasion by G. Byberg and C. D. Lawton —		
Part I	S44	5
Part II	M45	30
Part III	1Q47	30
Part IV	3Q47	25
Part V	4Q47	25
Control That Speed! by E. H. Fredrick and G. Byberg —		
Part I	D44	5
Part II	J45	23
Part III	S45	13
Part IV	1Q45	10
Part V	4Q46	5
Don't Lose Your Bearings! by G. L. Ringland	D44	30
Testing Your Motors "By Proxy" by H. T. Murdock	J45	4
Hydrogen Keeps 'Em Cool by V. J. Egan	S45	32
Balancing Is Easy If You Know How by W. F. King	2-3Q46	25
A Survey of Modern Motor Starters by J. Baude	1Q47	20
Thermal Balancing of Large Rotors by W. F. King	2Q47	8
100 Years — 1847-1947	3Q47	4
Hydrogen Cooling Simplified by A. Lehrkind and W. F. King	3Q47	6
Portable Sets Aid Balancing by E. W. Mills and W. F. King	1Q48	11
Don't Overlook Silicone Insulation by J. L. Kuehlthau	1Q48	22
Care of AC Rotating Equipment by F. Jeffrey —		
Part I	1Q49	13
Part II	2Q49	20
Part III	3Q49	18
Part IV	4Q49	30
Power for a Modern Blooming, Bar and Billet Mill by C. H. Legler, J. Baude, W. E. Gutzwiller, and R. M. Peeples	1Q51	4
Align Shafts, Not Couplings by W. F. King and J. E. Petermann	2Q51	26
Is Your Bearing Trouble a Puzzler? by C. D. Lawton	4Q51	28
Safeguarding Large AC Motors by E. N. Gigot and F. C. Osterland	1Q52	24
Today's Power Plant Motors by C. D. Lawton	3Q52	4
Auxiliary Drive Motor Keeps Pace with Modern Power by C. D. Lawton	1Q54	16
Silco-Flex Insulation—Opening the Way to Longer Motor Life by J. L. Kuehlthau and P. A. Kryder *05R8341	2Q55	4
"Integrated" Rotor Coil—Bonded to Extend Salient-Pole Motor Life by J. L. Kuehlthau and J. W. Sargent *05R8592	3Q56	4

Motors, Direct Current

	Issue	Page
The D-C Rotary Drilling Rig by E. F. Boening and M. Gay	4Q47	4

Motors, Applications of

	Issue	Page
How Varying Load Conditions Influence Motor Selection by F. K. Brainard and Fraser Jeffrey	4Q46	12
Emergency Sources Boost Power Supply by C. F. Dalziel	3Q48	4
Their Ceiling Is the Sky — Outdoor Motors by C. D. Lawton	1Q53	10
Frame Mounted Blowers Cool Adjustable Speed Motors by G. Byberg	1Q53	14
Today's Textile Motors by V. B. Honsinger and R. J. Jennings	2Q53	10
Twin Drive Designed for New Transonic Wind Tunnel by M. F. Gay and Elroy Boening	2Q54	10
Squirrel-Cage Motors and High Inertia Loads by G. Byberg	1Q55	23
Drive Selection by M. F. Gay *16R8308	2Q55	14
Applying Motors to Balance Leading and Lagging Power Factors by E. N. Gigot 05R8531	2Q56	30
Motors for the Delaware Flying A Refinery by G. W. Bottrell and D. E. Steele	4Q56	13
Solve Axial Thrust Problems with Limited End Float Couplings by E. B. Mills and J. E. Petermann *05R8900	3Q57	23
Variable Speed Drives Using AC Equipment by Harlan S. Neuville	3Q57	30
Variable Speed Pumps — Their Motors and Control by R. L. Brown	4Q57	28
How Much Enclosure for Your Motor? by C. D. Lawton and F. C. Osterland	2Q58	32

Motors, Induction

	Issue	Page
How To Calculate Losses In Wound Rotor Motors by R. C. Moore	2-3Q46	15
Emergency Sources Boost Power Supply by C. F. Dalziel	3Q48	4
Residual Voltage in Induction Motors Influences Load Transfer Time by R. C. Moore	3Q55	28
Starting with Slip Rings Shorted by R. C. Moore	1Q57	26
Induction Motor Torques Defined by R. C. Moore *05R8501	2Q57	4
Operating Induction Motors on Under and Overvoltage by R. C. Moore	1Q58	20
Pancake Motors Solve Space Problems by V. B. Honsinger *51R9011	1Q58	24

* *Number indicates that reprints are available.*

	Issue	Page
Applying Capacitive Reactance at Motor Terminals by W. E. Schwartzburg and R. C. Moore	4Q58	20

Motors, Synchronous

The *Synduction* Motor by R. J. Dineen *51R8597	4Q56	22

Nuclear Power

Advanced Type Boiling Reactor Plant Will Generate 60,000 Kw by C. B. Graham	1Q57	20
Argonne and the Atom by C. R. Braun and K. H. Gruenwald	1Q57	4
Selecting Nuclear Pumps and Motors by A. F. Erwin	3Q57	4
Evaluating High Temperature Liquid Pumps by A. F. Erwin	3Q58	7

Patents

"Dog Tags" for Industry's Product Army by D. Journeaux	S44	15
Patents and Rights to Inventions by H. S. Silver and W. C. Sealey	D45	27
Thinking of a Patent? by W. S. Gates	4Q46	18
Do You Know Your Own Invention? by D. Journeaux	3Q47	18
Inventions Need Birth Certificates! by G. M. Albrecht	4Q47	18
Patents Make Sense, IF, by J. S. Lieb	4Q50	20
Protect Your Trademark by E. Koppel	3Q51	30
Are Patents Helping You Solve Your Problems? by H. L. Swenson	4Q57	25
What's Your Patent I.Q.? by by H. L. Swenson	1Q58	28
Is "Patent Knowledge" One of Your Working Assets? by H. L. Swenson	3Q58	23

Rectifiers, Mercury Arc

Mercury Arc Converter Masters Metals in Deep Heating by H. F. Storm	M45	7
100 Years — 1847-1947	3Q47	4
Power for a Modern Blooming, Bar and Billet Mill by C. H. Legler, J. Baude, W. E. Gutzwiller, and R. M. Peeples	1Q51	4
25,000 Kw of DC Power Move Materials at Fairless Works by D. B. Scott and E. F. Kochman	3Q54	23
Today's Excitron Rectifiers by A. D. Millikin *12R8505	2Q57	10
Transistors for Mercury Arc Rectifier Control by J. B. Rice *12R8502	2Q57	16

Regulators, Feeder Voltage

Reactive Power Problem — Job for a Regulator by W. L. Peterson	D44	20
Closed Delta Operation of Single-Phase Step Type Regulators by C. W. Nielsen	3Q52	25
2-Way Power Flow in Feeder Voltage Regulators by R. D. Okerberg	4Q53	10
Regulators vs. Switched Capacitors by R. D. Okerberg	1Q54	10
How to Find the Right Spot for Regulators by R. D. Okerberg	2Q54	15
How to Increase Step Regulator Ratings by W. C. Sealey and R. D. Okerberg *21R8317	2Q55	25
Aluminum vs Copper for Step Regulators by C. W. Nielsen	4Q55	28
Distribution System Voltage Study by H. L. Deloney and W. L. Peterson	1Q56	12
Operating Regulators with Inside-the-Delta Connection by J. E. Jacobsen and A. S. Lindway	2Q58	20
What About ⅝% Feeder Voltage Regulation? by I. W. Best and H. C. Brem	3Q58	4

Regulators, Generator Voltage

Five Stages to Stability by T. B. Montgomery and H. D. Timm	3Q51	8
Rotating Regulators Control Systems Reactive Current by T. B. Montgomery and H. D. Timm	4Q51	4
Pull-Out Reserve—Controlled and Indicated by T. B. Montgomery and D. V. Hotson	1Q52	11
Dynamic Performance of Synchronous Generator Voltage Regulators by H. W. Cory and W. F. Eagan	3Q52	10
Predetermine Regulator Accuracy by W. F. Eagan	3Q52	15
Selecting Excitation Systems for Hydro-Generators by H. H. Roth	4Q55	4
Selecting Excitations Systems for Turbo-Generators by H. H. Roth *01R8530	2Q56	10

Switchgear

Aerial Photography Trick Simplifies Switchgear Installation Engineering by T. G. A. Sillers	S44	11
How to Select Storage Batteries for Switchgear by Robert Loewe	D44	15
Mastering The Short Circuit by Karl Lerstrup	J45	20
Static Capacitors Boost Systems Pay Load by H. E. Stites and R. Loewe	D45	31
A Survey of Modern Motor Starters by J. Baude	1Q47	20
100 Years — 1847-1947	3Q47	4
Power for Modern Chemical Plants by H. C. Bauman	3Q48	13
Choose Your Control Power Source by D. Dalasta	3Q48	9
Rx — Interlocks for Switchgear by A. Ewy	4Q48	12
System Trouble! Where? by R. P. Holland and W. E. Schwartzburg — Part I	3Q49	22
Part II	4Q49	20
Phasing Out Switchgear Connections by R. E. Burlingame	1Q50	18
New Blood for Old Switchgear by C. J. Teasley	1Q50	28
Power for a Modern Blooming, Bar and Billet Mill by C. H. Legler, J. Baude, W. E. Gutzwiller, and R. M. Peeples	1Q51	4
Basic Rules for Protecting Relaying by H. V. Nye	2Q51	20
Switchgear Control for Synchronous Motors by W. E. Schwartzburg and C. Straub	3Q51	20
Metal-Clad Switchgear for Power Plant Auxiliaries by H. H. Ackmann	4Q51	34
Switchgear Drawings Clarified by Ray Stowe	3Q52	20
Air-Cooled Transformers Withstand Switchgear Impulse Tests by Albert Ewy	4Q52	31
New Grounding Device Simplifies Testing of Installed Switchgear by H. H. Ackmann and J. F. Chipman	1Q53	28
Simplifying Coordination of Short Circuit Protection by R. Loewe and Peter F. Lovato	2Q53	18
Control of Hydro Power — 1953 by John Baude and T. F. Finley	3Q53	20
Corona-Free Switchgear by Carl Mercier	1Q54	26
Ring Bus in Metal-Clad Switchgear by D. Dalasta	3Q54	18
Automatic Load Transfer by W. Schwartzburg	1Q55	26
Power Distribution and Control by John Baude and Heinz Buss *16R8308	2Q55	20
Industrial Control or Switchgear? by H. A. Wright	2Q56	4
Designing Switchgear "Bus Runs" by J. H. Michael and C. E. Mercier	4Q56	34
Distribution System Studies for Industrial Plants by D. Dalasta and Frank Nolan	2Q57	22

* *Number indicates that reprints are available.*

	Issue	Page
Flameproofing Switchgear by J. H. Michael	4Q57	9
Testing Flame-Retardant Quality of Insulation by R. H. Lambert	4Q57	12
Protecting an Outdoor Substation by S. E. McDowell	2Q58	26
Unique Insulation System for New 5-Kv Switchgear by N. Kreekon and W. H. Lane	2Q58	4

Transformers, Distribution

Should Distribution Transformer Ratings Be Revised? by J. B. Hodtum	3Q47	22
100 Years — 1847-1947	3Q47	4
The Voltor Diagram by E. S. Warner	2Q49	4
Hermetically Sealed Transformers Are Here by W. M. Terry, Jr.	1Q50	4
Performance Characteristics of 150 C Rise Dry-Type Transformers by W. M. Terry, Jr. *61R8246	1Q55	10
Digital Computer Speeds Transformer Design by C. P. Kappeler and E. A. Goodman	1Q57	22

Transformers, Instrument

Now Instrument Transformer Standards Make Sense by F. E. Davis	J44	5
"When" and "Why" Tips on Bushing Current Transformers by H. B. Ashenden	S44	24
Correcting Errors in 3-Phase Power Measurement by D. R. Laib	1Q49	20
PT's Are Getting Smaller by D. R. Laib	1Q52	20
Air-Cooled Transformers Withstand Switchgear Impulse Tests by Albert Ewy	4Q52	31
Versatility Cast into New CT's by W. C. Farneth and George Gallousis	3Q55	15
Current Developments for Switchgear CT's by C. E. Mercier	2Q56	24

Transformers, Power

Get the Most from Veteran Transformers This Easy Way by W. C. Sealey	M44	20
It's Simple to Overload Transformers — If You Know How by Harding B. Hansen	M44	24
What A Power System Needs To Be "Effectively Grounded" by V. J. Cissna and W. C. Sealey	J45	28
Transformers Are Winning Fight To Lick Lightning by L. C. Aicher	S45	24
100 Years — 1847-1947	3Q47	4
Calculating Transformer Rise for Various Loads by E. M. Leonard	1Q48	16
Frills Jump the Cost of Autotransformers by L. W. Schoenig	1Q48	4
Changing Taps Under Load by L. W. Schoenig	4Q48	8
"Coordinated Insulation" — New Transformer Milestone by S. L. Foster	1Q49	4
Testing Transformer Oils by W. C. Sealey	1Q49	24
Reactance Affects Transformer Design by L. W. Schoenig	2Q49	9
Push-Button Testing of Power Transformers by S. L. Foster and W. C. Sealey	1Q50	10
Loading Evaluation of Transformers by L. S. Woodruff	2Q50	27
Predetermining Voltage Distribution in Transformers by L. C. Aicher	3Q50	9
Trends in Power Transformer Application by L. W. Schoenig	3Q50	20
Impulse Testing Without Delay by L. C. Aicher and J. H. Moran	4Q50	10
Corona — Another Transformer "Has-Been" by L. C. Aicher	4Q50	13
Repainting Transformers in the Field by J. R. Mann and O. V. Stewart	4Q50	26
A Million Breaks by A. H. Baguhn and G. W. Lengnick	3Q51	14
Where Does Transformer Noise Come From? by T. F. Madden	4Q51	16
Visualizing Transformer Impedances by W. C. Sealey	2Q52	13
Paralleling Load Ratio Control Transformers by W. C. Sealey	3Q52	30
Circulating Currents in Paralleled Load Ratio Control Transformers by W. C. Sealey	2Q53	25
600-KV Transformer Establishes New Insulation Levels	3Q53	17
Autotransformer Job Evaluation by L. W. Schoenig	4Q53	13
Cost Analysis in Power Transformer Selection by L. W. Schoenig	2Q54	26
A Simple Method of Paralleling Load Tap-Changing Transformers by W. C. Sealey	3Q54	12
How to Get Emergency Transformer Capacity by S. L. Foster *01R8529	2Q56	16
Evaluating Neutral Regulators by L. W. Schoenig	3Q55	32
Controlling Power Transformer Coolers by John A. Ebert	1Q56	25
Integral Design Reduces Weight and Size of Large Transformers by K. P. Wiederkehr	1Q56	28
1,300,000-Kva Load Tap Changer by W. C. Sealey and S. L. Foster	1Q56	21
Choosing Protection for Transformer Oil by L. W. Schoenig	3Q56	30
Powering A Giant Arc Furnace by G. H. Gilbertson and J. A. Ebert *01R8659	1Q57	10
Three-Phase Power Transformers Gain Popularity by E. G. Ashbaugh	3Q57	27
Air Switch Serves Load Tap Changing Transformer by S. L. Foster	4Q58	4
Designing Rectifier Transformers with Phase Shift by J. A. Ebert	4Q58	14
Are Reduced Insulation Transformers Safe? by J. R. Mann	4Q58	31

Transmission System

Quick Conversion Plan Makes System Change Click by B. H. McCoin	M45	27
Electrical Energy on Wheels by W. E. Schwartzburg	1Q47	4
Installing a Unit Substation by J. McGuire and W. E. Schwartzburg	2Q47	24
110 Kv on Wheels by K. Wiederkehr and R. Loewe	3Q47	11
Single Circuit Sub by W. E. Schwartzburg	4Q47	10
Power for Modern Chemical Plants by H. C. Bauman	3Q48	13
Check That Ground by R. Loewe	2Q48	26
Hermetically Sealed Transformers Are Here to Stay by W. M. Terry, Jr.	1Q50	4
Driving the World's Largest Water Tunnel by E. F. Boening and F. M. Scott	2Q50	10
Take the Switchyard Along by F. J. Arnaud and R. Loewe	3Q50	4
High Lines in Rough Terrain by F. D. Troxel	2Q52	4

Turbines, Gas

Gas Turbine — Ready for Rails! by J. T. Rettaliata —		
Part I	D44	11
Part II	M45	20

Turbines, Steam

Burbank's Sunshine Power Plant by J. H. McCambridge	D45	14
Shell's New Superimposed Power Plant by P. L. Andry, Jr.	2Q47	4
100 Years — 1847-1947	3Q47	4
Fly-Ash Cleans Turbine Blading Faster by G. V. Williamson	1Q48	25
Reheating Comes Back by C. W. Bloedorn	2Q48	6
Reheat — Past, Present and Future by C. A. Robertson	1Q49	9

** Number indicates that reprints are available.*

	Issue	Page
Steam Turbine History Highlights by R. C. Allen —		
Part I	2Q53	4
Part II	3Q53	11
Part III	4Q53	18
Today's Trends and Tomorrow's Turbines by C. D. Wilson and E. P. Hansen	2Q54	4
Reheat and Today's High Temperature Steam Turbine by C. D. Wilson *03R8467	1Q56	4
Coping with Reheat Turbine Overspeed by C. L. Ringle *03R8969	4Q57	4
New Experimental Laboratory Tests Steam Turbine Blading by F. J. Enright	1Q58	10
Designers' Models . . . the Modern Engineer's Tool by W. C. Frazier *03R8675	3Q58	12

Unit Substations

Scale Models Introduce Visual Planning of Unit Substations by John McGuire	J44	12
Standardization Speed-Up Simplifies Substation Engineering by J. N. Banky	D45	20
Electrical Energy on Wheels by W. E. Schwartzburg	1Q47	4
Installing a Unit Substation by J. McGuire and W. E. Schwartzburg	2Q47	24
110 Kv on Wheels by K. Wiederkehr and R. Loewe	3Q47	11
Single Circuit Sub by W. E. Schwartzburg	4Q47	10
Power for Modern Chemical Plants by H. C. Bauman	3Q48	13
Take the Switchyard Along by F. J. Arnaud and R. Loewe	3Q50	4
Double-Ended Substations . . . Economy or Luxury? by J. V. McGuire	2Q52	10
Protect Motors from Surges by B. M. Kleinman	4Q52	12
Planning the Electrical Distribution System for a Modern Cement Plant by C. L. Kleeman	3Q53	4
When Specifying Double-Ended Unit Substations Consider the Duo-Duplex by Warren J. Birgel and John A. Keymar	4Q53	25

Welding

Pick The Right Rod — It's Easy! by E. P. Gorman	D45	5

INDEX OF AUTHORS

Ackmann, H. H. — Potheads Are Important, Too!	4Q48	24
Metal-Clad Switchgear for Power Plant Auxiliaries	4Q51	34
New Grounding Device Simplifies Testing of Installed Switchgear	1Q53	28
Aicher, L. C. — Transformers Are Winning Fight to Lick Lightning	S45	24
Is It Sound, Or Noise? —		
Part I	4Q46	9
Part II	1Q47	10
Variations in the Dielectric Strength of Air	3Q49	12
Predetermining Voltage Distribution in Transformers	3Q50	9
Impulse Testing Without Delay	4Q50	10
Corona — Another Transformer "Has-Been"	4Q50	13
Modern Lightning Diversion	2Q51	10
Albani, O. J. — Breaker Design — 12,500 Amperes/Cubic Foot	3Q55	4
Albrecht, G. M. — Inventions Need Birth Certificates	4Q47	18
Allen, R. C. — Steam Turbine History Highlights—		
Part I	2Q53	4
Part II	3Q53	11
Part III	4Q53	18
Power of the Future	3Q55	10
Andry, Jr., P. L. — Shell's New Superimposed Power Plant	2Q47	4
Anonymous — 100 Years, 1847-1947	3Q47	4
Arnaud, F. J. — Take the Switchyard Along	3Q50	4
Ashbaugh, E. G. — New Arc-Furnace Processes Spotlight Transformer Design Details	4Q54	9
Three-Phase Power Transformers Gain Popularity	3Q57	27
Ashenden, H. B.—"When" and "Why" Tips on Bushing Current Transformers	S44	24
High-Speed Reclosing Through the Years	3Q49	4
Baguhn, A. H. — A Million Breaks	3Q51	14
Banky, J. N. — Standardization Speed-Up Simplifies Substation Engineering	D45	20
Baude, J. — A Survey of Modern Motor Starters	1Q47	20
How to Design Basic Controls for Automatic Hydro Stations	4Q49	24
Power for a Modern Blooming, Bar and Billet Mill	1Q51	4
Nomographs By-Pass Test Costs	2Q52	18
Control of Hydro Power — 1953	3Q53	20
Power Distribution and Control *16R8308	2Q55	20
Bauman, H. C. — Power for Modern Chemical Plants	3Q48	13
Becker, J. W. — Building the 300,000,000-Volt Betatron	2Q50	4
Beckwith, S. — Supercharged Cooling of Generators	3Q51	4
Bellinger, T. F. — Motor Starting — A Distribution System Problem —		
Part I *14R8377	1Q55	4
Part II *14R8377	2Q55	30
Bermke, Fred A. — Seal and Bearing Testing of Modern Generators	1Q54	8
Best, I. W. — What About ½% Feeder Voltage Regulation	3Q58	4
Birgel, Warren J. — When Specifying Double-Ended Unit Substations Consider the Duo-Duplex	4Q53	25
Bloedorn, C. W. — Reheating Comes Back	2Q48	6
Bloodworth, T. H. — Coordinating Controller and Breaker Ratings	2Q50	18
Boening, E. F. — The D-C Rotary Drilling Rig	4Q47	4
Driving the World's Largest Water Tunnel	2Q50	10
Twin Drive Design for New Transonic Wind Tunnel	2Q54	10
Controlling Processing Lines for Transformer Steel *14R8419	4Q55	9
Boice, C. W. — Power Distribution at Tidewater's Flying A Refinery	4Q56	7
Bottrell, G. W. — Motors for the Delaware Flying A Refinery	4Q56	13
Brainard, F. K. — How Varying Load Conditions Influence Motor Selection	4Q46	12
Braun, C. R. — Argonne and the Atom	1Q57	4
Brem, H. C. — What About ½% Feeder Voltage Regulation	3Q58	4
Brown, R. L. — Variable Speed Pumps — Their Motors and Control	4Q57	28
Burlingame, R. E. — Short Circuit Calculations for Circuit Breakers	3Q48	27
Phasing Out Switchgear Connections	1Q50	18
Buss, Heinz — Power Distribution and Control *16R8308	2Q55	20
Byberg, G. — How to Tell If An Enclosed Motor Will Pay for Itself	J44	28
Protect Your Motors from Invasion —		
Part I	S44	5
Part II	M45	30
Part III	1Q47	30
Part IV	3Q47	25
Part V	4Q47	25

* *Number indicates that reprints are available.*

	Issue	Page
Control That Speed! — Part I	D44	5
Part II	J45	23
Part III	S45	13
Part IV	1Q46	10
Part V	4Q46	5
Is More Inertia the Answer?	1Q50	22
Frame Mounted Blowers Cool Adjustable Speed Motors	1Q53	14
Squirrel-Cage Motors and High Inertia Loads	1Q55	23
Cage, J. M. — Vacuum Tube Converter — Key to Radio-Frequency Heating	M45	14
Campana, R. — How to Prepare Better Slides	2Q51	4
Chipman, J. F. — New Grounding Device Simplifies Testing of Installed Switchgear	1Q53	28
Cissna, V. J. — What A Power System Needs to Be "Effectively Grounded"	J45	28
Claude, R. E. — Convair Blowdown Wind Tunnel . . . Develops Transonic and Supersonic Velocities *16R8580	1Q58	4
Codrington, C. F. — Compressor Selection and Arrangement *16R8308	2Q55	11
GDF Wind Tunnels for the World's Highest Air Speeds *16R8308	2Q55	8
Cory, H. W. — Dynamic Performance of Synchronous Generator Voltage Regulators	3Q52	10
Motor Starting — A Distribution System Problem Part I *14R8377	1Q55	4
Part II *14R8377	2Q55	30
Dalasta, D. — Choose Your Control Power Source	3Q48	9
Dynamometer Tests Jet Engines (24,000-hp)	1Q51	23
Ring Bus in Metal-Clad Switchgear	3Q54	18
Distribution System Studies for Industrial Plants	2Q57	22
Dalziel, C. F. — Emergency Sources Boost Power Supply	3Q48	4
Davis, F. E.—Now Instrument Transformer Standards Make Sense	J44	5
Deloney, H. L. — Distribution System Voltage Study	1Q56	12
Dineen, R. J. — The *Synduction* Motor *51R8597	4Q56	22
Dominick, R. S. — Installing World's Largest Pump-Turbine	1Q56	10
Dornbrook, F. L. — Models Build Better Power Plants	2-3Q46	22
Durand, S. R. — Power Distribution at Tidewater's Flying A Refinery	4Q56	7
Eagan, W. F. — Dynamic Performance of Synchronous Generator Voltage Regulators	3Q52	10
Predetermine Regulator Accuracy	3Q52	15
Applying Magnetic Amplifiers *14R8596	3Q56	20
Ebert, John A. — Controlling Power Transformer Coolers	1Q56	25
Powering A Giant Arc Furnace *01R8659	1Q57	10
Designing Rectifier Transformers with Phase Shift	4Q58	14
Egan, V. J. — Hydrogen Keeps 'Em Cool	S45	32
Is More Inertia the Answer?	1Q50	22
Ellingen, W. E. — Selecting Steam Surface Condensers	1Q55	18
Enright, F. J. — New Experimental Laboratory Tests Steam Turbine Blading	1Q58	10
Erwin, A. F. — Selecting Nuclear Pumps and Motors	3Q57	4
Evaluating High Temperature Liquid Pumps	3Q58	7
Ewy, A. — Rx — Interlocks for Switchgear	4Q48	12
Air-Cooled Transformer Withstands Switchgear Impulse Tests	4Q52	31
Feldman, Carl — New Capacitor Trip Operates Low Voltage	3Q58	29
Feldman, G. E. — Relieve Your Engineer Shortage . . . Discover More Time for Engineering	4Q57	15
Good Management with "Completed Work"	3Q58	25
Finley, T. F. — Control of Hydro Power — 1953	3Q53	20
Foster, S. L. — "Coordinated Insulation" — New Transformer Milestone	1Q49	4
Push-Button Testing of Power Transformers	1Q50	10
How to Get Emergency Transformer Capacity *01R8529	2Q56	16
1,300,000-Kva Load Tap Changer	1Q56	21
Air Switch Serves Load Tap Changing Transformer	4Q58	4
Frazier, W. C. — Designers' Models . . . The Modern Engineer's Tool *03R8675	3Q58	12
Fredrick, E. H. — Variable Frequency Dynamometer	4Q52	20
Gates, Jack I.—"Big Inch" Oil—Under Control	M44	5
Gates, W. S. — Thinking of a Patent?	4Q46	18
Gay, M. F. — The D-C Rotary Drilling Rig	4Q47	4
Dynamometer Tests Jet Engines (24,000-hp)	1Q51	23
Variable Frequency Dynamometer	4Q52	20
Twin Drive Designed for New Transonic Wind Tunnel	2Q54	10
Drive Selection *16R8308	2Q55	14
GDF Wind Tunnels for the World's Highest Air Speeds	2Q55	8
Convair Blowdown Wind Tunnel . . . Develops Transonic and Supersonic Velocities *16R8580	1Q58	4
Gerg, R. A. — Selecting Control for Heavy Machinery	4Q52	26
Regulating Hydro-Station Generators	2Q54	20
Speaking of Power Factors	4Q55	18
Gifford, F. T. — Modernize Your Breakers?	J45	10
Gigot, E. N. — Safeguarding Large AC Motors	1Q52	24
Applying Motors to Balance Leading and Lagging Power Factors *05R8531	2Q56	30
Gilbertson, G. H. — Powering A Giant Arc Furnace *01R8659	1Q57	10
Girard, J. P. — Betatron — Industry's New Seeing Eye	2-3Q46	10
Goodman, E. A. — Digital Computer Speeds Transformer Design	1Q57	22
Gorman, E. P. — Pick the Right Rod — It's Easy	D45	5
Graham, C. B. — Advanced Type Boiling Reactor Plant Will Generate 60,000 Kw	1Q57	20
Griffith, Jr., B. E. — Design of Work Coils — Part I	4Q47	21
Part II	2Q48	11
Electronics in the Foundry?	4Q49	13
Gruenwald, K. H. — Argonne and the Atom	1Q57	4
Grutsch, Ralph — Oral Communications — A Vital Engineering Tool *25R8899	1Q57	14
Gutzwiller, W. E. — Power for a Modern Blooming, Bar and Billet Mill	1Q51	4
Guyton, Wm.—Electronics—From Curiosity to World Power	S44	20
Hafemeister, R. N. — Ultrasonics — The Key to Locating Defects in Metal Structure *03R8970	4Q57	20
Halter, A. — The Liquid Rheostat Returns	1Q47	14
Hansen, E. P. — Today's Trends and Tomorrow's Turbines	2Q54	4
Hansen, H. B.—It's Simple to Overload Transformers—If You Know How	M44	24
Harper, William — Plotting Electrostatic Stress	3Q53	30
Headley, C. L. — Thirty Years of Automatic Reclosing	2Q49	16
Herman, A. E. — A New Principle of Arc Interruption	2Q50	22
Herziger, W. J. — Fused Starters Protect High Voltage Equipment	2-3Q46	35
Hill, Stephen M. — Engineers Discuss Dollar Dynamics *25R8898	3Q57	28
Hodtum, J. B.— Should Distribution Transformer Ratings Be Revised?	3Q47	22
Time Saver for Distribution Engineers	2Q51	15
Hoffmann, Thomas R. — Curve Fitting	3Q57	14

** Number indicates that reprints are available.*

	Issue	Page
Holland, R. P. — System Trouble! Where? — Part I	3Q49	22
Part II	4Q49	20
Holman, B. — Selecting a Low Voltage Breaker?	2Q47	12
Honsinger, V. B. — Today's Textile Motors	2Q53	10
A Design Philosophy for General Purpose Motors	1Q54	35
Pancake Motors Solve Space Problems *51R9011	1Q58	24
Hotson, D. V. — Pull-Out Reserve—Controlled and Indicated	1Q52	11
Jansson, G. E. — Plotting Electrostatic Stress	3Q53	30
Jacobsen, J. E. — Operating Regulators with Inside-the-Delta Connection	2Q58	20
Jaski, Frank E. — One Machine—Two Functions . . . New Reversible Pump-Turbine	4Q52	8
Pump-Turbines . . . 1954 Progress Report	4Q54	16
Jeffrey, F. — How Varying Load Conditions Influence Motor Selection	4Q46	12
After Graduation, Opportunity	4Q48	4
Care of AC Rotating Equipment — Part I	1Q49	13
Part II	2Q49	20
Part III	3Q49	18
Part IV	4Q49	30
Jennings, R. J. — Today's Textile Motors	2Q53	10
Johnson, W. C.—The Electrical Industry Looks Ahead	2Q48	4
Journeaux, D. — "Dog Tags" for Industry's Product Army	S44	15
Do You Know Your Own Invention?	3Q47	18
Transient Operation of DC Generators	3Q50	27
Analogies and Energies	1Q52	30
Kappeler, C. P. — Digital Computer Speeds Transformer Design	1Q57	22
Kececioglu, D. B. — Construction of Alignment Nomograms and Their Application to Engineering Problems	2Q58	11
Keymar, John A. — When Specifying Double-Ended Unit Substations Consider the Duo-Duplex	4Q53	25
Kilgour, A. E. — Transmission Breakers Pace Power Growth	2Q57	32
King, W. F. — Balancing Is Easy If You Know How	2-3Q46	25
Thermal Balancing of Large Rotors	2Q47	8
Hydrogen Cooling Simplified	3Q47	6
Portable Sets Aid Balancing	1Q48	11
Dynamometer Tests Jet Engines (24,000-hp)	1Q51	23
Align Shafts, Not Couplings	2Q51	26
Kleeman, C. L. — Planning the Electrical Distribution System for a Modern Cement Plant	3Q53	4
Kleinman, B. M. — Protect Motors from Surges	4Q52	12
Knable, A. H. — Analyzing AC Circuit Principles and Traveling Waves	4Q56	16
Short Cuts in Surge Analysis	1Q57	30
5 Cases of Reflected Waves from Discharging Arresters	4Q57	34
Calculating Mutual Inductance in Unusual Arrangements	2Q58	7
Coordinating Network Relaying	4Q58	7
Kochman, E. F. — 25,000 Kw of DC Power Move Materials at Fairless Works	3Q54	23
Kohl, William F. — Statistical Quality Control Plus Tabulating Machines Helps Purchaser and Vendor	3Q57	10
Koppel, E. — Protect Your Trademark	3Q51	30
Kostelac, John — Controlling Processing Lines for Transformer Steel *14R8419	4Q55	9
Kreekon, N. — Unique Insulation System for New 5-Kv Switchgear	2Q58	4
Kryder, P. A. — *Silco-Flex* Insulation — Opening the Way to Longer Motor Life *05R8341	2Q55	4
Kuehlthau, J. L. — Don't Overlook Silicone Insulation	1Q48	22
Silco-Flex Insulation — Opening the Way to Longer Motor Life *05R8341	2Q55	4
"Integrated" Rotor Coil — Bonded to Extend Salient-Pole Motor Life *05R8592	3Q56	4
Laib, D. R. — Correcting Errors in 3-Phase Power Measurement	1Q49	20
PT's Are Getting Smaller	1Q52	20
Lambert, R. H. — Testing Flame-Retardant Quality of Insulation	4Q57	12
Lane, W. H. — Unique Insulation System for New 5-Kv Switchgear	2Q58	4
Lawton, C. D. — Protect Your Motors from Invasion — Part I	S44	5
Part II	M45	30
Part III	1Q47	30
Part IV	3Q47	25
Part V	4Q47	25
Is Your Bearing Trouble a Puzzler?	4Q51	28
Today's Power Plant Motors	3Q52	4
Their Ceiling Is the Sky — Outdoor Motors	1Q53	10
Auxiliary Drive Motor Keeps Pace with Modern Power	1Q54	16
How Much Enclosure for Your Motor?	2Q58	32
Legler, C. H. — Power for a Modern Blooming, Bar and Billet Mill	1Q51	4
Lehrkind, A. — Hydrogen Cooling Simplified	3Q47	6
Hydrogen Cooling—1951	4Q51	12
Lengnick, G. W. — A Million Breaks	3Q51	14
Leonard, E. M. — Calculating Transformer Rise for Various Loads	1Q48	16
Lerstrup, Karl — Mastering the Short Circuit	J45	20
Lewis, R. M. — Installing World's Largest Pump-Turbine	1Q56	10
Lieb, J. S. — Patents Make Sense, IF	4Q50	20
Lindway, A. S. — Operating Regulators with Inside-the-Delta Connection	2Q58	20
Linn, J. G. — Something New Every Day	2Q47	18
One for The Books	2Q47	21
Loewe, Robert—How to Select Storage Batteries for Switchgear	D44	15
Static Capacitors Boost Systems Pay Load	D45	31
Methods of Closing and Tripping Circuit Breakers	4Q46	24
110 Kv on Wheels	3Q47	11
Check That Ground	2Q48	26
Take the Switchyard Along	4Q50	4
From Candle Power to KW	1Q51	18
Simplifying Coordination of Short Circuit Protection	2Q53	18
Logan, Ensign J. A.—"Take 'er Down" Is the Big Test for a Sub's Machinery	S44	30
Loper, Carl — Curing Intricate Cores with Dielectric Heat	1Q53	4
Lovato, Peter F. — Simplifying Coordination of Short Circuit Protection	2Q53	18
Madden, T. F. — Where Does Transformer Noise Come From?	4Q51	16
Manion, J. P. — New Light on Fuel Cells *25R9082	3Q58	14
Mann, J. R. — Repainting Transformers in the Field	4Q50	26
Are Reduced Insulation Transformers Safe?	4Q58	31
Margopoulos, William — The Guided Self-Development of Engineers *25E8559	3Q56	10
Martin, H. W. — Motion Study Can "Up" Office Efficiency 70 Percent	M44	13
Matters, Robert G. — Ultrasonic Testing of Spindle and Rotor Forgings	4Q53	4
McCambridge, J. H. — Burbank's Sunshine Power Plant	D45	14
McCoin, B. H. — Quick Conversion Plan Makes System Change Click	M45	27
McDowell, S. E. — Synchronous Condenser at Arc-Furnace Load Steadies Power Demands	4Q54	12
Protecting an Outdoor Substation	2Q58	26

* *Number indicates that reprints are available.*

	Issue	Page
McGuire, John—Scale Models Introduce Visual Planning of Unit Substations	J44	12
Installing a Unit Substation	2Q47	24
Double-Ended Substation—Economy or Luxury?	2Q52	10
Mercier, C. E. — Corona-Free Switchgear	1Q54	26
Current Developments for Switchgear CT's	2Q56	24
Designing Switchgear "Bus Runs"	4Q56	34
Michael, J. H. — Designing Switchgear "Bus Runs"	4Q56	34
Michael, J. H. — Flameproofing Switchgear	4Q57	9
Mikolic, C. R. — The Sinusoidal D-C Positioner	1Q46	20
Millikin, A. D. — Today's Excitron Rectifiers *12R8505	2Q57	10
Mills, E. B. — Solve Axial Thrust Problems with Limited End Float Couplings *05R8900	3Q57	23
Mills, E. W. — Portable Sets Aid Balancing	1Q48	11
Montgomery, T. B. —		
Regulex — Instability In Harness	2-3Q46	5
Coordinating Controller and Breaker Ratings	2Q50	18
Five Stages to Stability	3Q51	8
Rotating Regulators Control Systems Reactive Current	4Q51	4
Pull-Out Reserve—Controlled and Indicated	1Q52	11
Moore, R. C. —		
How to Calculate Losses In Wound Rotor Motors	2-3Q46	15
Characteristics of the Induction Frequency Converter	3Q53	27
Residual Voltage in Induction Motors Influences Load Transfer Time	3Q55	28
Starting with Slip Rings Shorted	1Q57	26
Induction Motor Torques Defined *05R8501	2Q57	4
Operating Induction Motors on Under and Overvoltage	1Q58	20
Applying Capacitive Reactance at Motor Terminals	4Q58	20
Moran, J. H. — Impulse Testing Without Delay	4Q50	10
Morelli, N. W. — Hydraulically Stored Energy —New Era in Circuit Breaker Actuation	4Q52	4
Mortensen, S. H. — Induction Heat Works Metal Magic	M45	4
Munneke, A. S.—"Big Inch" Oil—Under Control	M44	5
Murdock, H. T. — Testing Your Motors "By Proxy"	J45	4
Nawn, B. D. — Sound Absorption of Panels	3Q50	24
Neuville, Harlan S. — Variable Speed Drives Using AC Equipment	3Q57	30
Nielsen, C. W. — Closed Delta Operation of Single-Phase Step Type Regulators	3Q52	25
Aluminum vs. Copper for Step Regulators	4Q55	28
Nippes, P. I. — Fully Supercharged Generator Test Performance Surpasses Expectations	4Q54	4
The Guided Self-Development of Engineers *25E8559	3Q56	10
Nolan, Frank — Distribution System Studies for Industrial Plants	2Q57	22
Nye, H. V. — Standards, Help or Hindrance	4Q49	11
Basic Rules for Protective Relaying	2Q51	20
Odell, R. C. —		
The Betatron Today — Part I	3Q50	13
Part II	4Q50	29
Okerberg, R. D. — 2-Way Power Flow in Feeder Voltage Regulators	4Q53	10
Regulators vs. Switched Capacitors	1Q54	10
How to Find the Right Spot for Regulators	2Q54	15
How to Increase Step Regulator Ratings *21R8317	2Q55	25
Olson, B. R. — New Vibration Warning Device for Hydro Turbine Generators	4Q53	29
Oman, Henry —		
The "Prinz" At the Crossroads	1Q46	23
Building Blocks of Marine Power	2-3Q46	29
Opperthauser, R. W. — Construction of Alignment Nomograms and Their Application to Engineering Problems	2Q58	11
Osterland, F. C. — Safeguarding Large AC Motors	1Q52	24
How Much Enclosure for Your Motor?	2Q58	32
Pankey, T. L. — Ion Exchange — Electrochemistry's New Frontier	1Q54	22
Patterson, W. R. — Selecting Control for Heavy Machinery	4Q52	26
Peeples, R. M. — Power for a Modern Blooming, Bar and Billet Mill	1Q51	4
Perry, E. R. — Hydraulically Stored Energy— New Era in Circuit Breaker Actuation	4Q52	4
Periodic Circuit Breaker Tests Cut Maintenance Costs *71R8584	3Q57	20
Petermann, J. E. —		
Adjusting Vertical Thrust Bearings	4Q51	30
Align Shafts, Not Couplings	2Q51	26
Solve Axial Thrust Problems With Limited End Float Couplings *05R8900	3Q57	23
Balancing Heavy Shafts and Rotors	1Q58	30
Peterson, W. L. —		
Reactive Power Problem—Job for a Regulator	D44	20
Distribution System Voltage Study	1Q56	12
Pritzlaff, Herbert — Oral Communications — A Vital Engineering Tool *25R8899	1Q57	14
Ramrath, J. M. — Graphical Differential Without Calculus	3Q51	28
Rettaliata, J. T. — Gas Turbine — Ready for Rails!		
Part I	D44	11
Part II	M45	20
Rice, J. B. — Transistors for Mercury Arc Rectifier Control *12R8502	2Q57	16
Richardson, C. A.—Economics of Electric Power Pumping	J44	20
Richter, Walther—Taking Stock of Stored Energy in Magnetic Circuits	J44	15
Fundamentals of Automatic Controls —		
Part I	1Q47	26
Part II	2Q47	26
Is It Weight, Or Mass?	2Q48	31
Ringland, G. L.—Don't Lose Your Bearings!	D44	30
Ringland, W. L. — 540-Degree Stator Coil Transposition *03R8506	2Q57	8
Ringle, C. L. — Coping with Reheat Turbine Overspeed *03R8969	4Q57	4
Robertson, C. A. — Reheat — Past, Present and Future	1Q49	9
Robinson, R. — From Candle Power to KW	1Q51	18
Rockwood, Charles — Solving the Shock Problem	1Q46	4
Rogers, T. H. — Betatron Application Extended with New Electron Beam Tube	3Q54	28
Rosenberg, L. T. —		
New Trends in Turbo-Generators	4Q50	4
Hydrogen Jet Cooling	2Q53	29
Progress Report . . . Supercharged Cooling Today	1Q54	4
Fully Supercharged Generator Test Performance Surpasses Expectations	4Q54	4
Design Features of Today's Large Turbine Generators *03R8503	2Q57	20
Roth, H. H. — What Is Exciter Response?	3Q51	17
Hydro-Generators—Rugged Individualists	4Q51	22
Paralleling Synchronous Frequency Changers	2Q52	24
Selecting Generators for Hydro-Electric Plants	1Q53	20
New Vibration Warning Device for Hydro Turbine Generators	4Q53	29
Generator-Motor Units for Reversible Pump-Turbines	4Q54	20
Applying Synchronous Condensers	4Q56	28
Selecting Excitation Systems for Hydro-Generators	4Q55	4
Selecting Excitation Systems for Turbo-Generators *01R8530	2Q56	10

* *Number indicates that reprints are available.*

	Issue	Page
Rumble, F. H. — V-Belt Drive Fundamentals for Engineers	2Q51	30
Salzer, Dr. Erwin — Fundamental Problems of A-C Circuit Interruption	D44	24
Fundamentals of A-C Circuit Interruption — Part I	2Q48	20
Part II	3Q48	20
Part III	4Q48	18
Part IV	1Q49	28
Part V	2Q49	24
Part VI	3Q49	26
Analogies in AC Circuit Interruption	2Q52	26
Sargent, J. W. — "Integrated" Rotor Coil — Bonded to Extend Salient-Pole Motor Life *05R8592	3Q56	4
Scag, D. T. — Betatron Application Extended with New Electron Beam Tube	3Q54	28
Schoenig, L. W. — Frills Jump the Cost of Autotransformers	1Q48	4
Changing Taps Under Load	4Q48	8
Reactance Affects Transformer Design	2Q49	9
Trends in Power Transformer Application	3Q50	20
Autotransformer Job Evaluation	4Q53	13
Cost Analysis in Power Transformer Selection	2Q54	26
Choosing Protection for Transformer Oil	3Q56	30
Evaluating Neutral Regulators	3Q55	32
Schoof, R. F. — Lock Out Accidents with Safety Interlocks	4Q58	10
Schwartzburg, W. E. — Electrical Energy on Wheels	1Q47	4
Installing a Unit Substation	2Q47	24
The Single Circuit Sub	4Q47	10
System Trouble! Where? — Part I	3Q49	22
Part II	4Q49	20
Switchgear Control for Synchronous Motors	3Q51	20
Automatic Load Transfer Cuts Power Interruptions from Seconds to Cycles	1Q55	4
Applying Capacitive Reactance at Motor Terminals	4Q58	20
Scott, D. B. — 25,000 Kw of DC Power Move Materials at Fairless Works	3Q54	23
Scott, F. M. — Driving the World's Largest Water Tunnel	2Q50	10
Sealey, W. C. — Get the Most from Veteran Transformers This Easy Way	M44	20
A New View of Conversion Factors	J44	26
What A Power System Needs to Be "Effectively Grounded"	J45	28
Patents and Rights to Inventions	D45	27
What Is a "Bigger Transformer"?	4Q46	21
Testing Transformer Oils	1Q49	24
Push-Button Testing of Power Transformers	1Q50	10
Visualizing Transformer Impedances	2Q52	13
Paralleling Load Ratio Control Transformers	3Q52	30
Circulating Currents in Paralleled Load Ratio Control Transformers	2Q53	25
A Simple Method of Paralleling Load Tap-Changing Transformers	3Q54	12
How to Increase Step Regulator Ratings *21R8317	2Q55	25
1,300,000-Kva Load Tap Changer	1Q56	21
Seely, K. B. — A Half-Century of Oil Circuit Breakers	4Q49	4
Serota, R. M. — Induced Heat Rolls Up Its Sleeves	D45	10
Shipley, R. Bruce — Tensors and Transformer Connections	2Q54	30
Shombert, George — Applying Correlation Analysis to Engineering Problems	3Q58	18
Sillers, T. G. A. — Aerial Photography Trick Simplifies Switchgear Installation Engineering	S44	11
Factory and Field High Voltage Short-Circuit Testing	1Q58	14
Silver, H. S. — Patents and Rights to Inventions	D45	27
Skiba, R. — Design of Work Coils — Part I	4Q47	21
Part II	2Q48	11
Staats, G. W. — Oriented Steel and Today's Turbine Generators	1Q56	18
Steele, D. E. — Motors for the Delaware Flying A Refinery	4Q56	13
Steiner, R. — Methods of Closing and Tripping Circuit Breakers	4Q46	24
Stewart, O. V. — Repainting Transformers in the Field	4Q50	26
Stites, H. E. — Static Capacitors Boost Systems Pay Load	D45	31
Storm, H. F. — Mercury Arc Converter Masters Metals in Deep Heating	M45	7
Stowe, Ray — Switchgear Drawings Clarified	3Q52	20
Straub, C. — Switchgear Control for Synchronous Motors	3Q51	20
Stubbs, S. R. — Modernize Your Breakers?	J45	10
Swenson, H. L. Are Patents Helping You Solve Your Problems?	4Q57	25
What's Your Patent I.Q.?	1Q58	28
Is "Patent Knowledge" One of Your Working Assets?	3Q58	23
Taylor, P. L. — Stem Voltage Floods On Circuit Breakers	S45	20
How Much Can a Breaker Take?	1Q52	4
Teasley, C. J. — New Blood for Old Switchgear	1Q50	28
Terry, W. M., Jr. — Hermetically Sealed Transformers Are Here!	1Q50	4
Performance Characteristics of 150 C Rise Dry-Type Transformers *61R8246	1Q55	10
Thompson, D. F. — Sound Absorption of Panels	3Q50	24
Timm, H. D. — Five Stages to Stability	3Q51	8
Rotating Regulators Control Systems Reactive Current	4Q51	4
Timmerman, J. S. — Packaged Bus Protects Electrical Conductors	1Q51	13
Breaker Design — 12,500 Amperes/Cubic Foot	3Q55	4
Tjensvold, R. O.—Preferred Numbers, Please!	1Q46	16
Troxel, F. D. — High Lines in Rough Terrain	2Q52	4
Tugby, E. E. — Factory and Field High Voltage Short-Circuit Testing	1Q58	14
Uehling, Edward — Water Over The Dam — Part I	3Q54	4
Part II	4Q54	27
American Hydro Power in the 20th Century Part I *02R8433	3Q55	20
Part II *02R8433	4Q55	20
Ureda, B. F. — Building the 300,000,000-Volt Betatron	2Q50	4
Warner, E. S. — The Voltor Diagram	2Q49	4
Watts, L. A. — Grouting — Part I	3Q47	21
Part II	4Q47	15
Part III	1Q48	20
Part IV	2Q48	30
Part V	4Q48	15
Wiederkehr, K. P. — 110 Kv on Wheels	3Q47	11
Integral Design Reduces Weight and Size of Large Transformers	1Q56	28
Williamson, G. V. — Fly-Ash Cleans Turbine Blading Faster	1Q48	25
Wilson, C. D. — Today's Trends and Tomorrow's Turbines	2Q54	4
Reheat and Today's High Temperature Steam Turbine *03R8467	1Q56	4
Wilson, J. T. — Eclipse Reveals Solar Secrets	S45	4
Woodruff, L. S. — Loading Evaluation of Transformers	2Q50	27
Wright, H. A. — Industrial Control or Switchgear?	2Q56	4
Wright, H. A. — Oil or Air Contactors for Medium Voltage Control?	4Q58	28
Zimmerman, J. A. — New High Energy Retention Pit *03R8504	2Q57	14

** Number indicates that reprints are available.*

Printed in U.S.